4, 6-tribromophenoxytetraethylene glycol (meth)acrylate, 2, 4, 6-trichlorophenoxymethyl (meth)acrylate, 2-(2, 4, 6-tribromophenoxy)ethyl (meth)acrylate, 2-(2, 4, 6-tribromophenoxy)propyl (meth)acrylate, 3-(2, 4, 6-tribromophenoxy)propyl (meth)acrylate, 2-(2, 4, 6-tribromophenoxy)-3-hydroxypropyl (meth)acrylate and 3-(2, 4, 6-tribromophenoxy)-3-hydroxypropyl (meth)acrylate.

Compounds having two functional groups (acryl, methacryl, vinyl) and two substituents (halogen, hydroxyl, lower alkyl):

2, 4-Dibromo-1, 3-di(meth)acryloyloxybenzene, 5-(meth)acryloyloxy-2, 4-dibromo-3-(meth)acryloyloxybenzene, 5-(meth)acryloyloxy-2-bromo-4-chloro-3-(meth)acryloyloxybenzene, 1-(meth)acryloyloxy-2, 5-dibromo-4-hydroxy-3-methyl-6-(meth)acryloyloxybenzene and 1-(meth)acryloyloxy-2-bromo-3-chloro-4-hydroxy-3-methyl-6-(meth)acryloyloxybenzene.

Compounds having two functional groups (acryl, methacryl, vinyl) and three substituents (halogen, hydroxyl, lower alkyl):

2, 4-Dibromo-6-methyl-1, 3, 5-tri(meth)acryloyloxybenzene, 1, 5-dibromo-3-hydroxy-2, 4, 6-tri(meth)acryloyloxybenzene and 1, 5-dichloro-3-hydroxy-2, 4, 6-tri(meth)acryloyloxybenzene.

Compounds having three functional groups (acryl, methacryl, vinyl) and three substituents (halogen, hydroxyl, lower alkyl):

2, 4, 6-Tribromo-1, 3, 5-tri(meth)acryloyloxybenzene and 2, 4, 6-trichloro-1, 3, 5-tri(meth)acryloyloxybenzene.

Compounds having functional groups (acryl, methacryl, vinyl), substituents (halogen, hydroxyl, lower alkyl) and the organic group M_5:

1, 4-Di(meth)acryloyloxytrimethoxy-2, 6-dibromobenzene,

1-(meth)acryloyloxyethoxy-2, 3, 6-tribromobenzene, 1-(meth)acryloyloxydipropoxy-2, 4, 6-trichlorobenzene, 2, 4-dibromo-1, 3-di(meth)acryloyloxymethoxybenzene and 2, 4-dibromo-6-methyl-1, 3, 5-tri(meth)acryloyloxydiethoxybenzene.

These exemplified compounds can be used solely or in combination.

Among the above-mentioned compounds, tribromophenol acrylate, tribromophenol methacrylate, tribromophenoxyethyl acrylate, tribromophenoxyethyl methacrylate and the like are particularly preferable.

Next, the carbazole-based compound [IV] is described.

In the organic groups R_6, R_7 and R_8 of the carbazole-based compound [IV], the radical polymerizable group can be a functional group such as vinyl, (meth)acryloyl or (meth)acryloyloxy. The organic groups R_6, R_7 and R_8 having no radical polymerizable group can be lower alkyl having one to five carbon atoms.

In $-(OR)_{n4}-$ of M_6, M_7 and M_8, a carbon number of the lower alkylene R is preferably one to five, more preferably one to three. Examples of OR are oxymethylene, oxyethylene, oxypropylene, oxybutylene and the like. Examples of $(OR)_{n4}$ (n4 is an integer of 2 to 5) are dioxymethylene, dioxyethylene, dioxypropylene, dioxybutylene, trioxymethylene, trioxyethylene, trioxypropylene, trioxybutylene, tetraoxymethylene, tetraoxyethylene, tetraoxypropylene, tetraoxybutylene and the like. When the lower alkylene R has hydroxyl, the hydroxyl can exist at any positions of the alkylene, and an example of the alkylene having hydroxyl is (2-hydroxy)propylene.

X_5 and X_6, being the same or different, are the substituents of the

ring and are halogen, hydroxyl or lower alkyl.

The carbazole-based compounds [IV] can be the following compounds.

Compounds having one functional group (acryl, methacryl, vinyl):

1-Vinylcarbazole, 2-vinylcarbazole, 3-vinylcarbazole, 4-vinylcarbazole, 9-vinylcarbazole, 1-(meth)acryloyloxycarbazole, 2-(meth)acryloyloxycarbazole, 3-(meth)acryloyloxycarbazole, 4-(meth)acryloyloxycarbazole and 9-(meth)acryloyloxycarbazole.

Compounds having two or three functional groups (acryl, methacryl, vinyl):

1, 9-Divinylcarbazole, 1, 5, 9-trivinylcarbazole, 2, 7-di(meth)acryloyloxycarbazole, 2, 8, 9-tri(meth)acryloyloxycarbazole, 1, 9-di(meth)acryloyloxycarbazole, 3, 6, 9-tri(meth)acryloyloxycarbazole, 2-(meth)acryloyloxy-1-vinylcarbazole, 6-(meth)acryloyloxy-2-vinylcarbazole, 2-(meth)acryloyloxy-9-(meth)acryloyloxycarbazole and 1-(meth)acryloyloxy-5-(meth)acryloyloxycarbazole.

Compounds having functional groups (acryl, methacryl, vinyl) and substituents (halogen, lower alkyl, hydroxyl):

2-Methyl-1, 9-divinylcarbazole, 3-hydroxy-1, 5, 9-trivinylcarbazole, 1-chloro-2, 7-di(meth)acryloyloxycarbazole, 3, 7-dibromo-2, 8, 9-tri(meth)acryloyloxycarbazole, 1, 9-di(meth)acryloyloxy-4-butylcarbazole, 3, 6, 9-tri(meth)acryloyloxy-1-hydroxycarbazole, 2-(meth)acryloyloxy-5-propyl-1-vinylcarbazole, 6-(meth)acryloyloxy-9-ethyl-2-vinylcarbazole, 2-(meth)acryloyloxy-9-(meth)acryloyloxycarbazole and